CLAIMS

1. Device for modifying the wheel camber of a wheel (1) on a motor vehicle, in which the wheel (1) is mounted on a wheel carrier (5, 51) so that it can pivot via a pivot bearing (4, 50), wherein a pivot plane described by the pivot bearing (4, 50) is arranged at least approximately transverse to a center plane (E) of the wheel, characterized by a position of a virtual rotational point (D) of the pivot bearing (4, 50) is above a wheel contact plane and on a side of the center plane (E) of the wheel facing the vehicle.

2. Device according to claim 1, wherein an intersection point (S) is formed by a Y-axis intersecting a rotational axis of the wheel (1) and lying in the center plane (E) of the wheel, with an X-axis lying in the wheel contact plane, wherein the rotational point (D) of the pivot bearing (4) relative to the intersection point (S) is arranged in a field, which is defined with X approximately equal to 150 mm and Y approximately equal to 150 mm.

3. Device according to claim 2, wherein the rotational point (D) of the pivot bearing (4) lies on a radius vector, which intersects the intersection point (S) and which covers an angular range of approximately 30° as a lower value up to approximately 60° as an upper value relative to the X-axis.

4. Device according to claim 1, wherein the pivot bearing (4, 50) has a fixed pivot bearing part (7, 52), which is fixed relative to the wheel carrier (5, 51), and a pivoting pivot bearing part (8, 53), which can pivot in the pivot plane relative to the fixed pivot bearing part (7, 52).

5. Device according to claim 4, wherein the wheel is mounted on the pivoting pivot bearing part (8, 53) so that it can rotate.

6. Device according to claim 4, wherein a preferably electromechanical actuator (23, 54) is supported on one side relative to the wheel carrier (5, 51) and on another side engages the pivoting pivot bearing part (8, 53).

7. Device for modifying the wheel camber of a wheel (1) on a motor vehicle, wherein the wheel (1) is mounted on a wheel carrier (5, 51) so that it can pivot via a pivot bearing (4, 50), wherein a pivot plane described by the pivot bearing (5, 51) is arranged at least approximately transverse to a center plane E of the wheel, wherein the pivot bearing (4, 50) has a fixed pivot bearing part (7, 52), which is fixed relative to the wheel carrier (5, 51), and a pivoting pivot bearing part (8, 53), which can pivot in the pivot plane relative to the fixed pivot bearing part (7, 52), and wherein the wheel (1) is mounted on the pivoting pivot bearing part (8, 53) so that it can rotate, characterized in that a preferably electromechanical actuator (23, 54) is supported on one side relative to the wheel carrier (5, 51) and on an other side engages the pivoting pivot bearing part (8, 53) for pivoting the pivot bearing part (8, 53).

8. Device according to claim 6 or 7, wherein the electromechanical actuator (23, 54) has an electric motor (24, 55) and a roller body screw drive, with a spindle nut (26) supported on a threaded spindle (27, 56) so that it can rotate.

9. Device according to claim 8, wherein the spindle nut (26) comprises a rotor (25) of the electric motor (24), and the threaded spindle (27) is held locked against rotation.

10. Device according to claim 8, wherein the electric motor (24) is mounted on the wheel carrier (5).

11. Device according to claim 10, wherein the electric motor (24) is in direct metallic contact with the metallic wheel carrier (5).

12. Device according to claims 4 and 9, wherein the threaded spindle (27) is locked in rotation to the pivoting pivot bearing part (8) and is held so that it cannot move in an axial direction, and rocking movements of the pivoting pivot bearing part (8) relative to the threaded spindle (27) are performed about a rocking axis arranged transverse to the threaded spindle (27).

13. Device according to claim 12, wherein a peg (31) arranged transverse to the threaded spindle (27) is roller-supported in a radial direction on the threaded spindle (27) by a biased roller bearing (33), especially a needle bearing, and the peg (31) is mounted on the pivoting pivot bearing part (8).

14. Device according to claim 1 or 7, wherein the wheel (1) is driven by a drive shaft (35), and the drive shaft (35) extends through the pivot bearing (4).

15. Device according to claim 14, wherein the drive shaft (35) extends through the wheel bearing (3).

16. Device according to claim 15, wherein the wheel bearing (3) is mounted on the pivoting pivot bearing part (8).

17. Device according to claim 14, wherein the drive shaft (35) is provided with a joint (36).

18. Device according to claim 15, wherein the pivot bearing (4), the wheel bearing (3), and the drive shaft (35) with the joint (36) are arranged one inside the other in a radial direction.

19. Device according to claim 18, wherein the pivot bearing (4), the wheel bearing (3), and the joint (36) of the drive shaft (35) are arranged in a common lubricating space (40) provided with lubricant.

20. Device according to claim 19, wherein the lubricating space (40) is defined by a seal, especially a folding or rolling bellows (37), which contacts, on one side, the fixed pivot bearing part (7) and, on the other side, the drive shaft (35).

21. Device according to claim 20, wherein a seal packing (38) mounted on the drive shaft (35) so that it can rotate is arranged between the seal and the drive shaft (35).

22. Device according to claim 4 or 7, wherein between the fixed pivot bearing part (7) and the pivoting pivot bearing part (8) there is a roller bearing having roller bodies (14) that roll on arc-shaped tracks (13, 16).

23. Device according to claim 22, wherein at least one endless roller body channel (17) is provided for the roller bearing in which the roller bodies (14) can circulate endlessly, and the roller body channel (14) has a load section (18) with the arc-shaped tracks (13, 16), a return section (19), and two deflection sections (20) connecting the load section (18) to the return section (19) to form an endless circuit.

24. Device according to claim 23, wherein the pivoting pivot bearing part (8) and the fixed pivot bearing part (7) are arranged one inside the other and are provided with the arc-shaped tracks (13, 16) on facing surfaces thereof.

25. Device according to claim 23, wherein one of the two pivot bearing parts (7,8) is provided with the return sections (19).

26. Device according to claim 23, wherein head pieces (21) provided with the deflection sections (20) are arranged on opposing ends of the pivot bearing (4).

27. Device according to claim 24, wherein the outer fixed or pivoting pivot bearing part (7) is assembled from two longitudinal parts (10, 11), and the longitudinal axis of the pivot bearing part (7) lies in a dividing plane thereof.

28. Method for producing a device according to claim 27, wherein the outer fixed or pivoting pivot bearing part (8) is provided with desired fracture positions along the dividing plane, wherein an initially one-piece pivot bearing part (8) is broken apart along the desired fracture positions, so that the two longitudinal parts (10, 11) are formed, wherein the two longitudinal parts (10, 11) are provided with fracture surfaces, which enable a precisely fitting joining of the two longitudinal parts (10, 11), at their facing fracture positions lying in the dividing plane.

29. Device according to claim 24, wherein the inner pivoting or fixed pivot bearing part (7) has a tubular configuration viewed in cross section and is provided on an outer surface with several ridges (12) distributed over a periphery thereof and arranged concentric to the rotational point D of the pivot bearing (4), and the ridges (12) carry the tracks (13, 16).

30. Device according to claim 29, wherein the tracks (13, 16) are provided on opposite peripheral sides of the ridge (12).

31. Device according to one or more of the preceding claims, wherein a fail-safe device (43) is provided, with which a camber position of the wheel (1) can be detachably locked.

32. Device according to claims 8 and 31, wherein the fail-safe device (43) has a positive-fit part for positive-fit connection of the spindle nut (26) to a part fixed to a frame of the vehicle.